



WATER-COOLED TCU Temperature Control Unit

Provides a closed loop of cooling water at controlled temperature



WATER-COOLED TEMPERATURE CONTROL UNIT

Features

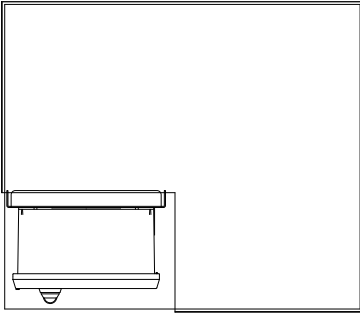
- Cooling water at a precisely-controlled temperature with $\pm 1^\circ\text{F}$ (0.5°C) accuracy.
- The water-cooled TCU uses a brazed plate condenser to reject heat from the refrigeration cycle
- Optional water-saver valve for condenser cooling water

Description

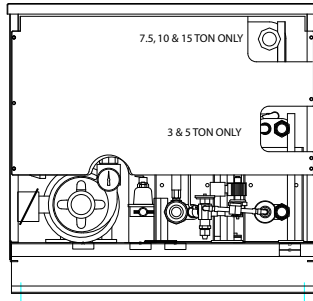
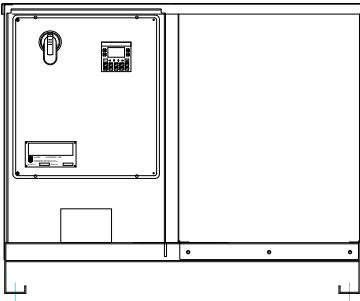
Sentry temperature control unit (TCU) systems are pre-designed, pre-piped systems available in sizes from 3 to 15 tons, air or water-cooled. All components are easily accessible for service. Each Sentry TCU system is “run-in” under a range of heat loads. Measurements are taken of critical parameters and recorded for future reference.

Nominal Capacity Model Number	3 Ton S03W		5 Ton S05W		7.5 Ton S07W		10 Ton S10W		15 Ton S15W											
<i>All sizes of Water Cooled TCUs are rated to 105°F (41°C) cooling water — Do not use if cooling water is above 105°F (41°C)!</i>																				
Actual capacity is dependent on cooling water supply temperature. Water Saver Valve recommended with cooling water of 50°F (10°C) or below.																				
Water Temperature	85°F (29°C)	105°F (41°C)	85°F (29°C)	105°F (41°C)	85°F (29°C)	105°F (41°C)	85°F (29°C)	105°F (41°C)	85°F (29°C)	105°F (41°C)										
Cooling Capacity Btu/Hr (KW)	36,000 (10.5)	32,400 (9.5)	60,000 (17.6)	54,000 (15.8)	90,000 (26.4)	81,000 (23.7)	120,000 (35.2)	108,000 (31.6)	180,000 (52.8)	162,000 (47.5)										
Heating Capacity Btu/Hr (KW)	10,800 (3.2)		18,000 (5.3)		27,000 (7.9)		36,000 (10.6)		54,000 (15.8)											
Cooling Water Flow GPM (LPM)	14 (53)	20 (76)	22 (83)	35 (132)	35 (132)	50 (189)	45 (170)	70 (265)	50 (189)	100 (379)										
Cooling Water Max. Press. Drop psi (bar)	9 (0.6)		10 (0.7)		11 (0.8)		8 (0.6)		9 (0.6)											
Chilled Water Flow GPM (LPM)	30 (114)		50 (189)		70 (265)		85 (322)		85 (322)											
Voltage (VAC)	380	400	460	575	380	400	460	575	380	400	460	575								
Power (kVA)	9.8	10.1	9.5	9.5	12.3	12.7	12.2	12.2	13.3	13.8	15.1	15.2	15.9	16.5	18.2	18.4	28.3	24.9	28.3	28.3

WATER-COOLED TCU TECHNICAL DATA



Size (Tons)	Dimensions W x L x H (inches)	Dimensions W x L x H (mm)	Weight (lbs.)	Weight (kg)	Cooling Water Connections	Chilled Water Connections
3	42 x 36 x 34 1/4	1067 x 914 x 870	600	272	1" NPT	2" NPT
5	42 x 36 x 34 1/4	1067 x 914 x 870	700	318	1" NPT	2" NPT
7.5	47 x 45 x 34 1/4	1194 x 1143 x 870	800	363	1 1/2" NPT	2" NPT
10	47 x 45 x 34 1/4	1194 x 1143 x 870	800	363	1 1/2" NPT	2" NPT
15	47 x 47 x 34 1/4	1194 x 1194 x 870	950	431	1 1/2" NPT	2" NPT



SPECIFICATIONS

Refrigeration

- Hermetically-sealed scroll compressor
- Full factory refrigerant charge of HFC-407C (R-407C)
- Copper brazed 316L stainless steel evaporator and condenser
- Hot gas bypass solenoid valve for temperature control
- Accessories include:
 - » Crankcase pressure regulating valve
 - » Sealed desiccant core filter-dryer
 - » Moisture and liquid indicator
 - » Externally adjustable thermostatic expansion valve

Chilled Water

- Close-coupled centrifugal pump
- Pressure indicator at pump discharge
- Accurate to $\pm 1^\circ\text{F}$ ($\pm 0.5^\circ\text{C}$)
- Adjustable make-up water pressure reducing valve with built-in strainer
- Pressure relief valve set at 100 psig (7.0 bar)

PLC Controller

- Keypad control to run system or pump alone
- Microprocessor based PID temperature control
- Digital contact provided for remote system start
- Digital indication of:
 - » Chilled water outlet temperature
 - » Cooling water supply and return temperature
 - » Compressor suction and discharge pressures
- Troubleshooting screens including alarm history
- Alarm contacts for chilled water high temperature and low flow

Electrical

- IP 65 / NEMA 4X enclosure with disconnect
- Available input power includes:
 - » 460 VAC / 60 Hz / 3 phase (standard)
 - » 380 VAC / 50 Hz / 3 phase
 - » 400 VAC / 50 Hz / 3 phase
 - » 575 VAC / 60 Hz / 3 phase

WARNING

It is solely the responsibility of the end-user, through its own analysis and testing, to select products and materials suitable for their specific application requirements, ensure they are properly installed, safely applied, properly maintained, and limit their use to their intended purpose. Improper selection, installation, or use may result in personal injury or property damage.



SENTRY EQUIPMENT CORP

966 Blue Ribbon Circle North
Oconomowoc, WI 53066 USA
Tel: 262-567-7256 • Fax: 262-567-4523

E-mail:
sales@sentry-equip.com

Website:
www.sentry-equip.com



For further information, contact: